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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/551,159 | 09/28/2005 | Koki Tanaka | 52433/820 | 3164 |

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| 26646 | 7590 | 10/10/2007 |
| KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004 | | |

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| EXAMINER | |
| LAVILLA, MICHAEL E | |

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| ART UNIT | PAPER NUMBER |
| 1794 | |

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| NOTIFICATION DATE | DELIVERY MODE |
| 10/10/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@kenyon.com

Office Action Summary

Application No.

10/551,159

Applicant(s)

TANAKA ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 4-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20050928.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in the reply filed on 18 September 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election **without** traverse (MPEP § 818.03(a)).
2. The requirement is still deemed proper and is therefore made FINAL.
3. Claims 4-7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 18 September 2007.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
5. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Regarding Claim 1, it is unclear whether the phrase "or two or more" is superfluous language or somehow limits the claim scope. It is unclear whether the phrase "at least one type of oxide selected from" is equivalent in scope to the phrase "at least one oxide selected from the group consisting of".

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
9. A person shall be entitled to a patent unless –
10. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
11. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. JP 2000-290730. Suzuki et al. teaches steel sheet of the claimed ingredients and a plating layer of the claimed ingredients, wherein the plating layer would be expected to possess the claimed complex oxides. See Suzuki et al. (paragraphs 17-19, 42-46, 49, and 50). While Suzuki et al. does not report on the identities and sizes of complex oxides in the plating layer, Suzuki et al. teaches an interfacial internal oxidation layer of the claimed oxide materials and of micron thickness, which is comparable to that described as formed by applicant. See Specification (page 15, first full paragraph). Applicant's Specification teaches that subsequent alloying at temperatures and for time periods comparable to those used by Suzuki et al. results in the presence of the claimed oxides in the plating layer. See Specification (bottom of page 15). Applicant has characterized the effects of the claimed endpoints for the oxide particle dimensions. See Specification (page 13). Applicant explains that particles that are too small result in ineffective alloying, which is not observed in Suzuki et al. This evidence, based on comparison between Applicant's disclosure and Suzuki et al.'s, leads to the conclusion that the claimed dimensions can be presumed to

be achieved in the laminates of Suzuki et al. Suzuki et al. teaches that the steel of Suzuki et al. is a complex of phases, including ferrite, bainite and austenite. It would be expected that all claimed phases would be present to some degree.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.


14. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. JP 2000-290730 in view of Fujita et al. JP 2003-005751. Suzuki et al. teaches steel sheet of the claimed ingredients and a plating layer of the claimed ingredients, wherein the plating layer would be expected to possess the claimed complex oxides. See Suzuki et al. (paragraphs 17-19, 42-46, 49, and 50). While Suzuki et al. does not report on the identities and sizes of complex oxides in the plating layer, Suzuki et al. teaches an interfacial internal oxidation layer of the

claimed oxide materials and of micron thickness, which is comparable to that described as formed by applicant. See Specification (page 15, first full paragraph). Applicant's Specification teaches that subsequent alloying at temperatures and for time periods comparable to those used by Suzuki et al. results in the presence of the claimed oxides in the plating layer. See Specification (bottom of page 15). Applicant has characterized the effects of the claimed endpoints for the oxide particle dimensions. See Specification (page 13). Applicant explains that particles that are too small result in ineffective alloying, which is not observed in Suzuki et al. This evidence, based on comparison between Applicant's disclosure and Suzuki et al.'s, leads to the conclusion that the claimed dimensions can be presumed to be achieved in the laminates of Suzuki et al. Suzuki et al. teaches that the steel of Suzuki et al. is a complex of phases, including ferrite, bainite and austenite. Suzuki et al. may not exemplify the claimed complex of phases of Claim 3. In the event that this feature is not exemplified, Fujita et al. teaches the desirability of these complex phases for improving strength and ductility. See Fujita et al. (paragraphs 47-49). It would have been obvious to one of ordinary skill in the art at the time of the invention to prepare the steel of Suzuki et al. to provide the claimed complex of phases in order to confer improved strength and ductility to the laminate of Suzuki et al., which improved properties are goals of Suzuki et al.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
26 September 2007


MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER